

ABSTRACT

An exemplary circuit for sensing bi-directional current through a resistive element comprises a sampling unit, a charge transfer unit, and an amplifier. The sampling unit is switchably coupled to the resistive element and samples and stores a voltage corresponding to a
5 current flowing through the resistive element. The charge transfer unit switchably connects the sampling unit to the amplifier such that the charge transfer unit and the amplifier convert the sampled voltage to a ground-referenced output voltage corresponding to the magnitude of the current and in accordance with the direction of the current through resistive element.